STATE FOREST NURSERY SEEDLING CATALOG

2008-2009




PROVIDING CONSERVATION FOR IOWANS SINCE THE 1930s

DNR CALL 800-865-2477 FAX 515-233-1131
WEB www.iowadnr.gov/forestry/

ROGER JACOB
State Forest Nursery Manager
Forester

Roger manages both the Ames Nursery and the Montrose Nursery. He takes an active role in all aspects of the nurseries and will be happy to help you develop your conservation plan.

THE STATE FOREST NURSERY welcomes the opportunity to help you with your planting needs. We have been providing conservation advice and seedlings since the 1930s. We strive to produce the best planting stock in the industry. Let us know how we can help you. You can reach us by calling **800-865-2477**, or visting **www.iowadnr.gov/forestry/**. Our staff will do their best to fulfill your needs or get you to someone who can help you. Our goal is for your planting to be successful!

Planting trees today leaves a legacy for your children or grandchildren. You'll be surprised how fast they grow! Let us help you create your own special legacy. Your children and grandchildren will thank you and it will create a special bond that will live beyond your mortal years.

For Land's Sake

ORDERING FROM THE STATE FOREST NURSERY

CALL 800-865-2477 FAX 515-233-1131
WEB www.iowadnr.gov/forestry/

PLACE ORDERS AUGUST 1 - MAY 31

MINIMUM ORDER IS 500 PLANTS except to fill in plantings from the previous year or for Specialty Packets which can be ordered individually.

WHEN ORDERING BY MAIL, DO NOT SEND MONEY with your order. A bill will be sent later. Checks, VISA, Discover, or MasterCard are accepted.

TO PURCHASE you must agree:

- to plant and use the nursery stock requested upon the described **Iowa** property for establishing or improving existing forests, erosion control, game or water conservation with these restrictions;
- to NOT resell or give these plants away with roots attached to any person, firm, corporation or agency nor to plant any of them for new windbreak, shade or ornamental purposes;
- to protect all planting from fire and domestic livestock grazing;
- to forfeit for destruction any trees planted or used in violation of the above restrictions.

SHIPPING to your home is available for $5/100 plants for 8"-16" size or $10/100 plants for the 17"-24" size. Plants can also be picked up at the nursery in Ames.

PRICES INDICATED with the descriptions are priced per 100 plants. Most species come in two sizes: 8"-16"; and 17" and larger. The first price listed with the description is for the 8"-16" size; the second price is for the 17" and larger size. Refer to the Order Form for more specific information.

ORDERING GIFTS

BUY SPECIALTY PACKETS or other trees as a gift!
You will receive a gift certificate to sign and give, and the plants will be shipped directly to the recipient's address for planting.

SPECIALTY PACKETS

CREATE-A-PACKET

This packet of 200 trees and shrubs provide habitat to various wildlife. Birds will nest in the foliage in the spring, critters will gather seeds and nuts in the fall and find shelter in the winter. **Packet includes 50 each of the 4 species of YOUR CHOICE.** **$90/pkt**

TURKEY PACKET

This packet of 200 trees and shrubs will improve your area for wild turkey food and cover. Packet includes 50 each of Bur Oak, White Oak, Pin Oak and Gray Dogwood. Recommended by the Iowa Chapter of the *National Wild Turkey Federation.* **$90/pkt**

PHEASANT PACKET

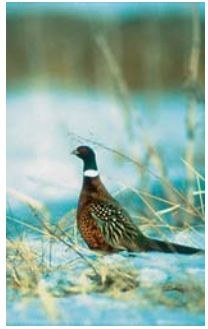
You can provide important winter cover with this packet of 200 trees and shrubs selected for pheasants and quail. Packet includes 50 each of Red Cedar, Wild Plum, Ninebark and Gray Dogwood. Recommended by *Iowa Pheasants Forever* chapters. **$90/pkt**

QUAIL PACKET

Build a covey "headquarters" to provide the natural shelter quail need to survive. Plant shrubs 2-3 feet apart by species to form groups or multiple short rows to create groups. Packet includes 100 Wild Plum and 100 Gray Dogwood. Recommended by the *DNR Wildlife Bureau.* **$90/pkt**

SONGBIRD PACKET

This packet includes 16 favorite shrubs and 4 trees. These species will attract a variety of songbirds year round: 2 Bur Oak, 2 White Pine, 4 Wild Plum, 4 Chokecherry, 4 Gray Dogwood and 4 Serviceberry. The seedlings are shipped directly to your home. Recommended by *Iowa Audubon.* **$20/pkt**



PLANTING DESIGNS
For Specialty Packets refer to pages 17-18.

GIFT CERTIFICATES
for Specialty Packets and other trees, call **800-865-2477** or visit **www.iowadnr.gov/forestry/.**

NATIVE IOWA HARDWOODS

These trees are the anchors to any successful tree-planting project. Native trees can be the easiest to grow because they are already adapted to the Iowa climate and soils. Valued for their wildlife food and habitat, autumn colors and wood products, the hardwoods are ideal for conservation plantings of all kinds.

SUGAR MAPLE
(Acer saccharum) 60-75'. Brilliant orange red fall color. Tolerates shade. Collect maple sap in the spring for your own maple syrup. Does best on moderately moist to well-drained sites. Valuable wood products. Excellent firewood. **$37** / **$42**

SILVER MAPLE
(Acer saccharinum)50-80' . A very hardy, rapidly growing, easy-to-establish tree. Does best on moist to well-drained sites, but is adaptable to most sites. Prefers full sun, tolerates some shade. Valuable wood products tree. Yellow fall color. Good firewood. **$37** / **$42**

RIVER BIRCH
(Betula nigra) 40-70'. Variable bark color but peels of bark on branches 2" or greater expose reddish brown inner bark. Prefers an acid soil and is best adapted to moist soils, native along stream banks. Yellow fall color. **$37** / **$42**

SHELLBARK HICKORY
(Carya laciniosa) 60-80'. Native to SE Iowa along river bottoms. Nuts are edible and provide a good food source for wildlife. Yellow fall color. Excellent firewood. **$40**

SHAGBARK HICKORY
(Carya ovata) 60-80'. Native to all but the NW corner of Iowa. Upland species that prefers well drained soils. Nuts are edible and provide a good food source for wildlife. Its shaggy bark offers good bat nesting sites. Yellow fall color. Excellent firewood. **$40**

NORTHERN PECAN *(Carya illinoensis) 70-100'.* Native to southern Iowa along river basins. Prefers deep, moist, well-drained soil. Largest of the hickories. Nuts are edible and provide a good food source for wildlife. Yellow fall color. **$40 / $45**

***NOTE:* NORTHERN PECAN SWEATING PROCESS:** Northern Pecan has very hard buds where dormancy can be hard to break. To overcome this problem, we recommend that you use a process known as sweating. The larger the tree the harder it is to break dormancy.

The process is very simple. Remove the poly bags from the paper bag. Make sure there is some visible moisture in the bag. Lay the poly bags down flat in a warm place (70 degrees) until the buds start to swell. This should happen within a few days.

The trees are then ready to plant. It is important that the weather be warm after planting.These trees are best planted later in the season. (May)

HACKBERRY *(Celtis occidentalis) 40-60'.* Hardy fast grower that prefers moist fertile soil, but adapts to most soils. Fruit is good for birds and wildlife. Good firewood. Yellow fall color. Prefers full sun but adapts to some shade. **$37 / $42**

KENTUCKY COFFEETREE *(Gymnocladus dioicus) 60-75'.* Prefers rich moist soil, but is very adaptable. Very few diseases. Some yellow fall color, but not very showy. Stiff coarse branching that is very showy in winter. Seeds were used by early settlers for a coffee substitute. **$37 / $42**

BLACK WALNUT *(Juglans nigra) 50-75'.* A large tree with medium green, pinnately compound leaves. Does best on rich, deep, fertile, well-drained soils. Requires full sun. Widely planted and highly regarded for top quality lumber. Nuts are edible, providing an excellent wildlife food source. Yellow fall color. **$40 / $45**

IOWA'S FOREST LAND is 92% privately owned. If you would like to add a forest planting on your property or need information on woodland management contact the **STATE FOREST NURSERY** at **800-865-2477**; your **DISTRICT FORESTER**, see page 16; or visit **www.iowadnr.gov/forestry/**.

PRICES ARE PER 100 PLANTS

PLANT COTTONWOOD AND POPLAR CUTTINGS with only 1 bud above ground.
THE LARGEST COTTONWOOD in the nation was in Iowa. It had a spread of 126' and was 34' around its trunk. It is no longer standing due to a windstorm.

PRICES ARE PER 100 PLANTS

SYCAMORE
(Platanus occidentalis) 70-100'. This grand tree with spreading branches is native to southern Iowa but its range extends farther north. Rapid growth rate. Enormous leaves, interesting upper bark textures peel away to lighter colors. Good streamside and wildlife plant. Yellow-brown fall color. **$37 / $42**

COTTONWOOD
(Populus deltoides) 60-100'. A large, very hardy, rapidly growing tree. Prefers moist conditions, very adaptable. Common along streams. Prefers full sun. Valuable for fuel-wood plantations. Yellow fall color. *Also available as 14" unrooted cuttings.*
Male selections available. **$37**

HYBRID POPLAR
(Populus deltoides x Populus nigra) 40-60'. A hybrid mix of Cottonwood and Black Poplar. A medium, seedless, hardy, rapidly growing tree. Adaptable to most sites. Prefers full sun. Valuable for fuelwood plantations. Non-native. Yellow fall color. *Also available as 14" unrooted cuttings.* **$37**

QUAKING ASPEN
(Populus tremuloides) 50-70'. Native to the eastern half of the state. Very fast growing tree, with light colored upper bark. Good grouse habitat. Golden yellow fall color.
$37 / $42

CRANDON HYBRID
An apsen hybrid with an even faster growth rate. **$37 / $42**

BLACK CHERRY
(Prunus Serotina) 50-60'. Native to all but extreme NW Iowa. Prefers moist fertile soil, but adapts to all except very wet or very dry. Fruit is good for birds and makes good jelly and wine. Valuable wood products tree. Yellow fall color. **$37 / $42**

WHITE OAK *(Quercus alba) 50-80'*. Does best on slightly moist to well-drained sites. Requires full sun. Valuable wood products tree. Acorns provide excellent wildlife food source. Purplish-red autumn color. Excellent firewood. Native to all but the NW corner of Iowa.

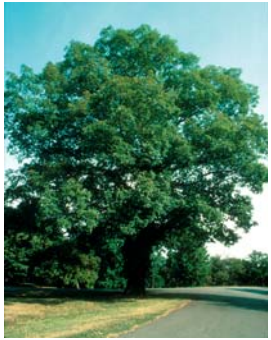
$40 / $45

SWAMP WHITE OAK *(Quercus bicolor) 50-60'*. Among the hardiest of the oaks. Adaptable to most soils, yet grows best in wet, swampy, soils. Requires full sun. Acorns provide excellent wildlife food source. Red-bronze fall color. Excellent firewood. **$40 / $45**

CHINKAPIN OAK *(Quercus muehlenbergii) 40-50'*. Attractive oak with coarsely toothed slender leaves. Usually found on limestone out croppings, but prefers rich bottomlands. Acorns are an excellent wildlife food source. These were once used to make flour. Yellow to orange-brown fall color. **$40 / $45**

BUR OAK *(Quercus macrocarpa) 70-80'*. A vigorous grower. Adaptable to most soils. Requires full sun. Planted in small groupings or spread apart, their branches grow with great character. Acorns provide excellent wildlife food. Yellow-brown fall color. Excellent firewood.

$40 / $45



BLACK OAK *(Quercus velutina) 50-70'*. Grows best on moist, rich, well-drained, acid soils, can survive on poor, dry, sandy, or heavy clay. Good wildlife food source. Excellent firewood. Red to red-brown fall color. **$40 / $45**

GOOD OR POOR DRAINAGE can affect trees – some trees don't tolerate water soaked soils, others do. If you want to plant a row of trees that crosses a wet area you could have a bare spot in the row unless the trees can thrive in the wet conditions. For recommendations contact: the **STATE FOREST NURSERY, 800-865-2477**; your **DISTRICT FORESTER**, see page 16; or visit the **WEB, www.iowadnr.gov/forestry/**.

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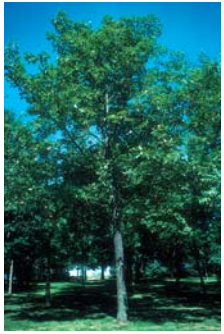
PLANT WILLOW CUTTINGS with only 1 bud above ground.

PRICES ARE PER 100 PLANTS

Native **PIN OAK** *(Quercus palustris) 60-80'*. Attractive pyramidal shape, winter branching resembles a starburst emanating from a central point. Does best on moist, well-drained sites in full sun, tolerates some shade. Small acorns offer good wildlife food. Bright red fall color. Native to SE Iowa. **$40 / $45**

Native **RED OAK** *(Quercus rubra) 60-75'*. Fastest grower of the oaks, does best on moist or well-drained sites. Does best in full sun. Valuable wood products tree. Acorns provide excellent wildlife food source. Red to red-brown fall color. Native to all but the NW corner of Iowa. **$40 / $45**



Native **MIXED OAK** *(Quercus-variety) 50-80'*. Contains various oaks including Red, White, Bur, Pin and Black in varying proportions. Because of varieties this grouping tends to be adaptable to most sites, you can't go wrong with oaks. Requires full sun. Acorns provide excellent wildlife food. **$40 / $45**

HYBRID WILLOW *(Salix ssp.) 60-100'*. A large, hardy, rapidly growing tree. Prefers moist conditions, streamsides and lake shores. Requires full sun. Good for streamside plantings. Similar to Black Willow. Yellow fall color. *Also available as 14" unrooted cuttings.* **$37**

Native **AMERICAN LINDEN or BASSWOOD** *(Tilia americana) 60-80'*. Native to the entire state. A stately tree that prefers moist sites, but is very adaptable. Shade tolerant. Yellow to brown fall color. **$40 / $45**

EVERGREENS

Two native Iowa evergreens are among the evergreens offered by our Nursery. Many are used for winter cover for wildlife or Christmas tree production. Evergreens provide winter color for the landscape and are a great backdrop to deciduous trees such as River Birch or shrubs like Redosier Dogwood.

CONCOLOR or WHITE FIR
(Abies concolor) 40-60'. Prefers moist well drained soils and full sun. Tolerates light shade and gravelly sites. Soft needles with a blue-green color. Very few serious diseases. Excellent evergreen for Iowa. **$25** / **$30**

Native **EASTERN RED CEDAR**
(Juniperus virginiana) 40-50'. Adapts to most sites — moderately dry to moist, full sun to partial shade. Tolerates poor, gravelly sites.Prefers airy sites. Very drought resistant. Dark blue berries. Excellent for wildlife food and cover. **$25** / **$30**

NORWAY SPRUCE
(Picea abies) 40-60'. Hardy. Does best on moist to well-drained soils. Shade tolerant. Prefers cooler sites. Fastest growing spruce. Dense draping branches. **$25** / **$30**

WHITE SPRUCE
(Picea glauca) 40-60'. Hardy. Does best in moist, well-drained, gravelly soils. Quite tolerant of Iowa's hot, dry summers. Medium growth rate. Tolerant of considerable shade. Good wildlife cover. **$25** / **$30**

JACK PINE
(Pinus banksiana) 30-50'. Especially hardy on dry, sandy soils; adaptable to most well-drained soils. Good cover for coal spoil banks. Often planted for wildlife habitat or erosion control. Somewhat open and loose appearing. **$25** / **$30**

Order your seedlings **AUGUST 1 - MAY 31**
Call the **STATE FOREST NURSERY at 800-865-2477**
or visit **www.iowadnr.gov/forestry/.**

PRICES ARE PER 100 PLANTS

RED PINE
(Pinus resinosa) 50-80'. Hardy, widely adaptable, but does best on well-drained soils. Full sun, but does not tolerate hot dry winds — prefers a cool, protected site. Good lumber tree.
$25 / $30

Native **EASTERN WHITE PINE**
(Pinus strobus) 50-75'. Grows well in rich, moist soil, but does best in moist, sandy loams. Full sun to partial shade. Intolerant of air pollutants. Soft, picturesque tree. Good lumber tree. Widely used for Christmas tree production. Native to NE Iowa. **$25 / $30**

SCOTCH PINE
(Pinus sylvestris) 30-60'. Used for Christmas tree production, excellent for wildlife cover and as companion trees in hardwood plantings. Should be considered only for short-term plantings as the tree may not live beyond 20 years. **$25 / $30**

EXTRA CARE PRODUCES HEARTY NURSERY SEEDLINGS

ROOT PRUNING encourages healthy trees. Almost all of our hardwood and evergreen trees are root pruned. Those that are in the nursery for multiple years are done each year. This practice is to develop more lateral roots that will go with the tree when it is lifted from the ground and sent to your planting site. It not only increases survival, but first year's vigor and growth. Root pruning also controls top growth, improving the trees' balance with a larger root system and shorter top. There are, of course, times when conditions make it impractical to get it done.

SMALL TREES & SHRUBS

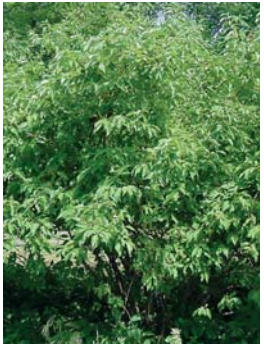
The right finishing touches to any conservation planting can be made with small trees and shrubs. These are the working layer of plants for wildlife – providing nesting and producing fruits for food. Use these plants as borders, screens or in groupings to paint your land legacy – the distinguishing mark of artful conservation.

BLACK CHOKEBERRY *(Aronia melanocaroa)* *4-6'*. Shade tolerant. Prefers moist to wet soils, but tolerates dry soils. White flowers in may and bright red fall color. Black or blackish purple fruit. Excellent for wine, jams, etc. Very high in vitamins, minerals and antioxidants. **$40 / $45**

SERVICEBERRY *(Amelanchier arborea)* *6-20'*. Small, multi-stemmed tree. Also known as Juneberry. Produces showy white flowers in the very early spring followed by edible purple fruit. Prefers moist to well-drained soils. Adaptable to either sun or shade. Excellent wildlife food. **$40 / $45**

BUTTONBUSH *(Cephalanthus occidentalis) 3-6'*. Native to all, but northwest corner of the state. Grows best in moist to wet areas along streams and lakes. Grows in sun or shade. White "button shaped" flowers in late summer. **$40 / $45**

SILKY DOGWOOD *(Cornus obliqua) 6-10'*. Prefers moist and wet soils where many shrubs do not grow well. White flowers bloom in mid-June. Tolerates almost any location, growing in moist, wet soils, in sun or shade. Provides good food and cover for wildlife. Attractive red twigs. **$37 / $42**



GRAY DOGWOOD *(Cornus racemosa) 10-15'*. Forms a large plant colony from the original. Attractive shrub with cream flowers followed by white berries. Tolerates most locations, grows in moist or dry soils, in sun or shade. Very hardy. Provides good food and cover for wildlife. **$37 / $42**

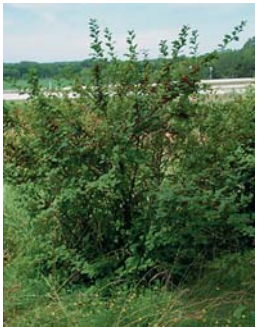
Native **REDOSIER DOGWOOD** *(Cornus stolonifera) 10-15'*. Attractive red stems with cream flowers followed by white berries. Red twigs create winter color and are used in basketry. Forms a large plant colony. Tolerates most locations, grows in moist, wet soils, in sun or shade. Good wildlife food and cover. **$37 / $42**

Native **HAZELNUT** *(Corylus americana) 8-10'*. Adaptable shrub good for wildlife food and cover. This shrub is less common in many areas than it was historically – help put it back to the statewide distribution our wildlife deserves. Prefers well drained soils. Full sun or light shade. Produces edible nuts if you can get them before the critters do! **$40 / $45**

Native **NINEBARK** *(Physocarpus opulifolius) 5-9'*. Small, very hardy, dense, compact grower. Foliage is small and attractive. White clusters of flowers in May and June, followed by numerous small red pods. Adaptable to most sites; moderately dry to moist, full sun to partial shade. Excellent wildlife food and cover. Native to most of Iowa. **$40 / $45**

Native **WILD PLUM** *(Prunus americana) 10-15'*. This hardy shrub is one of the most widely distributed in North America. Prefers rich moist sites in full sun, but is adaptable to slight shade. Forms thickets. White fragrant flowers in April followed by yellow to purple edible fruit good for jams and jellies. Excellent wildlife food and cover. **$40 / $45**

NANKING CHERRY *(Prunus tomentosa) 8-10'*. A broad spreading shrub. Pink to white flowers in early spring followed by edible scarlet fruit in June. Very attractive soft green foliage. Prefers rich, moist sites. Prefers full sun, but is adaptable to slight shade. Excellent wildlife food and cover. **$37 / $42**



CHOKECHERRY
(Prunus virginiana) 20-30'. This hardy shrub or small tree is one of the most widely distributed in North America. Prefers rich moist sites and full sun, but will adapt to slight shade. Resembles black cherry but is smaller. Bears red fruit. Excellent wildlife food and cover.
$40 / $45

SANDBAR WILLOW
(Salix interior) 12-20'. Valuable for stream bank stabilization and protection, establishes quickly in moist soils. Good wildlife cover. Requires full sun. *Available in unrooted cuttings only, 1" diameter and 16" long for streambank projects.* **$40**

ELDERBERRY
(Sambucus canadensis) 5-12'. Prefers moist soils but will tolerate dry soils. Full sun to partial shade. Good wildlife food and cover so make space for this one. Showy, white, flat-topped flowers late-June, edible berries in fall, great for jelly. **$37 / $42**

ARROWWOOD
(Viburnum recognitum) 8-15'. Hardy shrub that prefers well drained soils. Adapts to sun or shade. White flowers in late May to early June, with bluish black berries in fall. Provides good food source for birds. Fall color is yellow to red-purple.
$40 / $45

NANNYBERRY
(Viburnum lentago) 15-18'. Hardy large native shrub, prefers well drained soils. White flowers in early May with bluish black berries in fall. Purple-red fall color. Adapts to sun or shade. Good winter food for birds.
$40 / $45

HELP PROTECT OUR WATER RESOURCES - PLANT A BUFFER!
90% cost share still available. For more information contact your DISTRICT FORESTER, see page 16.

TO ORDER
call 800-865-2477 or visit
www.iowadnr.gov/forestry/

HIGHBUSH CRANBERRY

(Viburnum trilobum) 8-12'. Attractive, upright shrub. Showy flat clusters of white flowers, bright red berries that hold on all winter. Prefers deep, moist, well drained soils; full sun to partial shade. Excellent wildlife food and cover. **$40 / $45**

ASH SPECIES ARE NO LONGER AVAILABLE!

WE HAVE STOPPED selling the ash species because of the threat of the emerald ash borer. Although it has *not* been found in Iowa yet, it has been found in several neighboring states including Michigan, Ohio, Indiana, and Illinois. The emerald ash borer kills ash trees of all species. It has already killed over 25 million ash trees in these neighboring states.

The emerald ash borer spreads very slowly by itself. The adult beetles can only fly between .5 to 1 mile. It's main mode of movement is the transportation of ash wood or products. Firewood is a common use of the dead trees, but movement of this brings along live larvae. There is a federal quarantine on products coming out of infected areas, but it is very hard to enforce. **The BEST thing you can do to help protect Iowa's resource is to not bring firewood from other states into Iowa.** For more information visit **www.emeraldashborer.info**.

WILDLIFE MANAGEMENT

WILDLIFE PROBLEMS are one of many problems for a young tree planting can be wildlife damage. Deer, mice, rabbits, beavers, and gophers all eat trees!

While we cannot cover all of the problems and possible deterents, be aware of the possible problems. Keep in mind, wildlife does not like to be exposed to its predators, so try to keep them exposed to deter them. In other words, mowing will expose many species to their predators.

There are many possible aids including repellents, shelters, and fences. Repellents have varying effectiveness and of course have to be reapplied as the weather wears them off. Shelters and fences are effective, but expensive. Stranded wire electric fences, can be effective depending on the deer population and travel routes. For more information, contact your district forester (see page 16), wildlife biologist, or ISU extension agent.

OUR STATE FORESTS
OFFER MORE THAN RECREATION

A MAJOR GOAL of the Bureau of Forestry is the sustainability of the state's natural resources. Iowa's state forests demonstrate that the land can be managed for multiple purposes while maintaining healthy and diverse ecosystems. Some of those purposes are: campground and trail establishment; prairies burned periodically for their rejuvenation; preservation of areas with unique features; some land farmed to provide diversity and food plots for wildlife while other areas are planted to prairies or trees. Some forest areas are harvested to intentionally create conditions needed for new forests to grow. Without proper harvests, the oak forests will gradually disappear.

MANAGEMENT OF THE STATE FORESTS yields hardwood lumber that is sold to the public. Call Yellow River or the State Nursery for information.

Forest Management Leader
Jeff Goerndt
515-281-5441

LOESS HILLS STATE FOREST in western Iowa, has examples of prairie, savanna, and woodland management using prescribed fire.

For information call Area Forester:
Brent Olson
712-456-2924

SHIMEK STATE FOREST in rugged southeast Iowa features trails, fishing ponds, camping and soaring eagles.

For information call Area Forester:
John Byrd
319-878-3811

STEPHENS STATE FOREST in south central Iowa features trails, camping and hunting opportunities.

For information call Area Forester:
Jessica Flatt
641-774-4559

YELLOW RIVER STATE FOREST in northeast Iowa's bluff country is a highlight of fall colors plus trout fishing, hunting, trails and camping.

For information call Area Forester:
Robert Honeywell
563-586-2254

Paul Tauke, State Forester and Bureau Chief
515-242-6898

Randy Cook, Urban Forester
515-281-5600
Emma Bruemmer, Operation ReLeaf
515-281-6749

Matt Brewer, Volunteer Coord.
515-242-6892
Gail Kantak, Fire Supervisor
515-233-1161

Ryan Schlater, Fire Specialist
515-233-1161
Karl Harris, Fed. Excess Equipment
515-233-1161

Tivon Feeley, Forest Health
515-281-4915
Aron Flickinger, Special Projects
515-242-5966

DISTRICT FORESTERS

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   DAVE ASCHE
   Box 662 - 500 Gunder Rd
   Elkader, IA 52043
   563-245-1891

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   Charles City, IA 50616
   641-228-6611

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   641-752-3352

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   Anamosa, IA 52205
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   Wapello, IA 52653
   319-523-2216

6. **RAY LEHN**
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   Fairfield, IA 52556
   641-472-2370

7. **DUANE BEDFORD**
   1111 N. 8th Street
   Chariton, IA 50049
   641-774-8733

8. **GEORGE WARFORD**
   1918 Greene St.
   Adel, IA 50003
   515-993-4133

9. **JEREMY COCHRAN**
   Box 189 - 712 S. Hwy 6
   Oakland, IA 51560
   712-482-6245

10. **JOE SCHWARTZ**
    1100A 12th St. SW
    LeMars, IA 51031
    712-546-5161

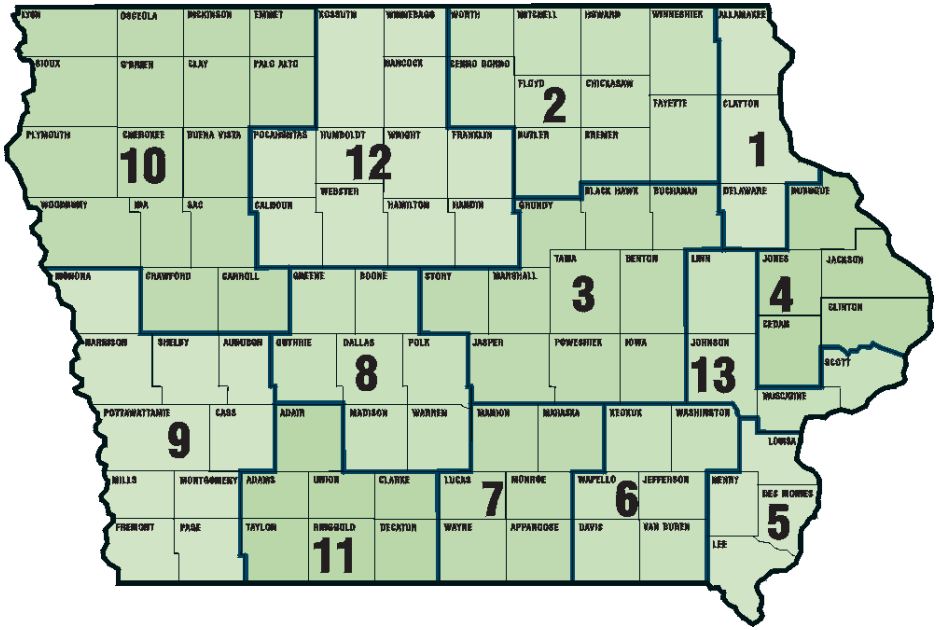
11. **RANDY GOERNDT**
    500 E. Taylor
    Creston, IA 50801
    641-782-6761

12. **WAYNE FUHLBRUGGE**
    Box 232
    Webster City, IA 50595
    515-832-3585

13. **MARK VITOSH**
    4265 Oak-Crest Hill Rd., SE
    Iowa City, IA 52246
    319-351-8886

DISTRICT FOREST SUPERVISOR
DENNIS MICHEL 515-281-4924

DNR DISTRICTS

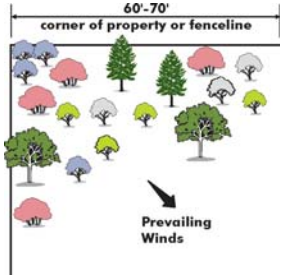


For information on tree planting or woodland management, contact the
STATE FOREST NURSERY at 800-865-2477 or the FORESTER in your district.

SPECIALTY PACKETS PLANTING DESIGNS

SONGBIRD PACKET

Suggested design to attract songbirds and other small wildlife. May be used in urban, suburban, or rural settings. This clumped design will have a very "natural" look, while providing thick winter shelter. Fruit-bearing shrubs and Oak acorns yield a natural food supply, but the site can be enhanced by placing bird feeders and a water source on the inside of the planting. If situated close to a home site, this design will offer endless hours of enjoyable wildlife viewing. Contact your local DNR Wildlife Biologist, District Forester, or the DNR Wildlife Diversity Program staff for further advice.



TURKEY PACKET

Suggested design for turkey woody habitat area. Spread Gray Dogwoods farther apart if needed. Bur Oak plantings may be planted denser if thinning will occur later to create savannah habitat. Do NOT mix Pin Oak and Red Oak together, rather, separate with Bur Oak. Contact your local DNR biologist or District Forester for help.

PLANT SYMBOLS

- Wild Plum — space 4-5'
- Serviceberry — space 8-10'
- Chokecherry — space 10-12'
- Ninebark — space 4'
- Gray Dogwood — space 4'
- Red Cedar — space 16'
- White Pine — space 15-20'
- Bur Oak — space 18-20'
- Pin Oak — space 8'
- Red Oak — space 8'

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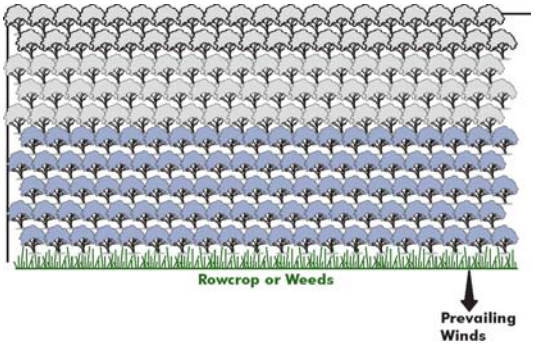
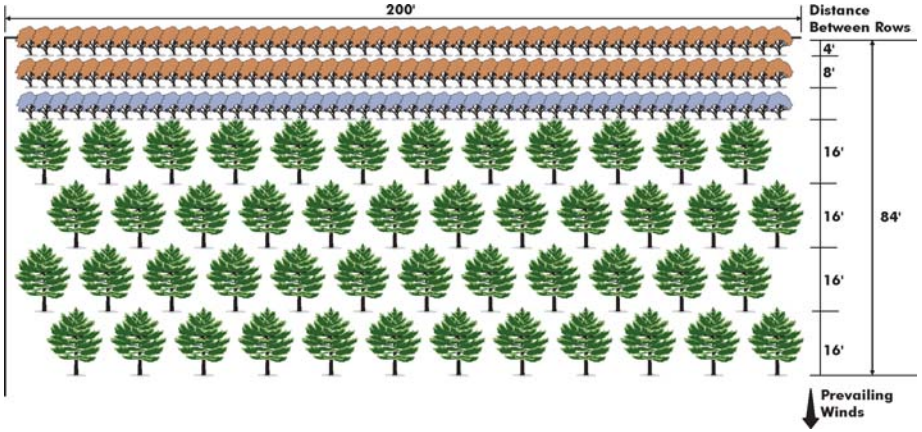
Plant shrubs 3'x3' part with a total area of at least 1500 ft².



QUAIL PACKET

Suggested design for quail covey headquarters. Locate adjacent to row crop or early successional vegetation (weedy areas). Contact your local DNR biologist or District Forester for help.



PHEASANT PACKET

Suggested design for pheasant woody habitat area. Locate adjacent to other grassland or wetland cover and within ½ mile of food. Pheasant packet will not protect pheasants during severe winters, see Iowa DNR Shelterbelt Cost-Share brochure for a severe winter cover design. Contact your local DNR biologist or District Forester for help.

SUCCESSFUL TREE PLANTING

PLANNING

Before ordering your trees, take time to make a plan. For assistance consult a DNR District Forester.

- Select tree and shrub species that will do well on your site and that will meet your objectives.
- Determine tree and shrub spacing and the quantity needed.
- Place your order early to insure that seedlings are available.
- Consider the existing ground cover and the steps you need to take to insure that your trees will not succumb to weeds. You may need to eliminate or reduce competing vegetation before your planting can succeed.
- Consider what you will need to do to prepare the site.
- Decide if the site should be machine planted or hand planted.
- Decide if you can do the work, or if you need to hire a contractor.

Keep roots moist.

CORRECT planting position.

INCORRECT planting position.

SITE PREPARATION

The objective of site preparation is to control competing vegetation and to insure good soil to root contact for the newly planted seedlings. An ideal site is well tilled and free of weeds. However the steepness of slope, rocks and other impediments, and the need to control soil erosion often limit the degree of site preparation that can be considered practical.

Completely eliminate vegetation in a strip 3-5' wide where the trees are to be planted. Do this by cultivation or with herbicides. If the site needs protection from erosion, do all work on the contour.

SEEDLING CARE PRIOR TO PLANTING

The planting season in Iowa is generally April 1st to mid-May. It is best to plant seedlings as soon as you receive them. If this is not possible, they should be stored in a cooler at 35°F. If this is not possible, keep as cool as possible, in a location that does not allow freezing and thawing. Seedlings lose their vigor if stored for long periods.

SEEDLING CARE DURING PLANTING

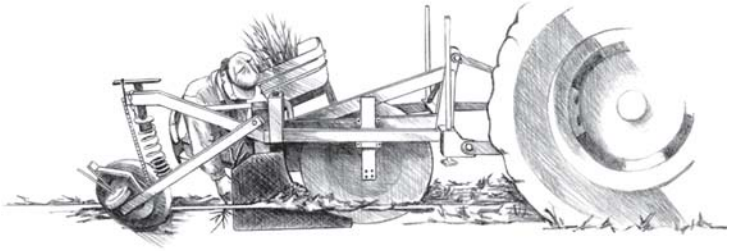
- Keep seedlings' roots moist at all times. Transport trees in a bucket with water covering the roots or keep roots under wet material.
- Do not leave bags of trees in the sun!
- Plant seedlings with the root collar slightly below ground. Trees may not survive with exposed roots.
- Plant seedlings with the main root straight down, not doubled or sharply bent. Seedlings planted with "U-shaped" roots grow poorly. It is better to trim extremely long roots.
- Plant seedlings in an upright position, firmly pack soil around the roots, leaving no air pockets.

PLANTING METHODS

MACHINE PLANTING

Tractor-drawn planting machines are limited to areas that can be worked with farm equipment. Average planting rates are 500-700 seedlings per hour.

County Conservation Boards and *Pheasants Forever* groups often have tree planting machines to loan or rent; some may provide other assistance as well. Tree planting contractors are also available.



Before starting, get instructions from the planting machine owner or a DNR District Forester (see page 16).

Be sure the machine opens an adequate planting trench and that it packs the trees firmly. If planting is done by a contractor, be sure the operators are well trained and experienced.

HAND PLANTING

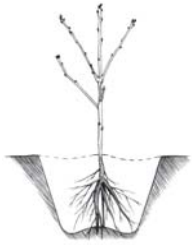
Trees should be hand planted:

- when the planting site is too steep, rocky, brushy, severely gullied or small to be planted by machine;
- when planting machines are not available;
- when there are small areas of re-planting to do;
- within woodland openings or after timber harvest operations.

Average planting rates for hand planting are 300-500 seedlings per day.

There are three general methods of hand planting:

- the dug-hole method,
- the slit method, and
- the wedge method.



DUG-HOLE METHOD

STEP 1 Using a shovel or auger, plant the tree in a hole deep enough and large enough to hold the roots of the tree.

STEP 2 Place the tree in the hole so that roots are not doubled or bent. Use soil to help spread the roots.

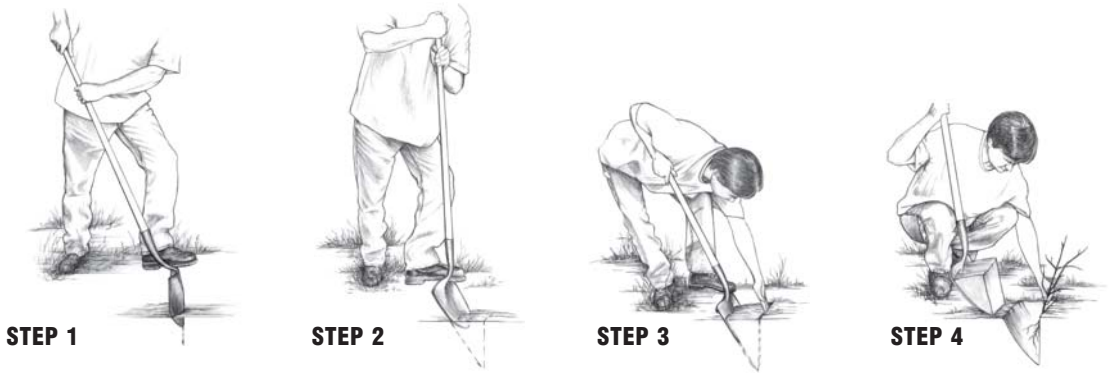
STEP 3 Fill in with loose dirt and pack to achieve good root-to-soil contact. Lightly depress surface soil for water penetration. Pack soil, removing air pockets.

SLIT METHOD

STEP 1 Insert planting bar at an angle, then push forward to an upright position.
STEP 2 Place seedling at correct depth. Vertically insert bar 2" from seedling. Pull bar back, firming soil at bottom of hole. **STEP 3** Push bar forward, firming the remainder of the hole. **STEP 4** Fill remaining hole. Step on soil around seedling to firm.

WEDGE METHOD

STEP 1 Insert a sand shovel vertically into soil.
STEP 2 Insert shovel at an angle to create a wedge of soil.
STEP 3 LIft out soil wedge.
STEP 4 Place seedling against vertical side of hole, replace soil wedge, then step on wedge to anchor it in place.



NO TREE PLANTING IS COMPLETE until weed competition is controlled. Refer to the next section on grass and weed control.

ARE GRASSES & WEEDS REALLY A PROBLEM?

Grass and weeds are a problem because they grow faster and are often taller than young seedlings. They compete with your seedlings for the limited moisture, nutrients, light, and space. Grasses and broadleaf weeds may kill your seedlings. At the very least, they keep seedlings from growing as quickly and vigorously as they would without competition.

In addition, a thick stand of grass or weeds next to your seedlings provides habitat for rabbits and rodents who can girdle or cut off your seedlings.

The only way to avoid these problems are to control the grass and weeds that cause them.

WHAT DOES CONTROLLING GRASSES & WEEDS MEAN?

Controlling grass and weeds means keeping them from growing in a 3-5' zone around your seedlings. This gives the seedlings space to start growing without competition.

On sites where rabbits or rodents are a problem, mow the area between rows in the fall to reduce populations that may girdle your seedlings in the winter.

The primary reason for the failure of tree plantings in Iowa is the lack of control of the competition from grass and weeds.

Either tillage or chemical control of existing vegetation is recommended.

Controlling weeds can easily be accomplished with the proper start.

HOW DO I GET STARTED?

Begin grass and weed control before the seedlings are planted, preferably the fall before planting. To prepare for planting, remove all vegetation in strips or circles 3-5' wide. (The width will depend on the size of your seedlings, the size of competing weeds and the erosion potential of your site.) On sites with perennial grasses like brome, or fescue, eliminate the grass on the entire field.

Vegetation can be removed by cultivation (rototilling or plowing) in either spring or fall. Fall cultivation is best. On sites with sod or heavy trash, mechanical cultivation is required at least twice, with some time between cultivations.

When using herbicides to kill perennial grasses and weeds, spray the fall before planting. Annual weeds will die in the fall anyway. For maximum control mow the areas and allow grass and weeds to regrow to 3-4" before spraying. Roundup® is an effective herbicide to use. Adding 2,4-D will improve control of perennial broadleaves including alfalfa.

Growing grass and weeds can also be removed before planting in the spring by using a post-emergent herbicide, but only grass and weeds that are already growing will be affected. Again, Roundup® or Roundup® and 2,4-D are good choices.

There should be no vegetation growing in the strips or circles at the time of planting. If there is, treat again just prior to planting.

WHAT DO I DO AFTER PLANTING?

Grass and weed control will be needed for the first 3-5 years after your seedlings have been planted. While control efforts can decrease as the seedlings become established, some control will be necessary until your plants are tall or dense enough to suppress the competition.

There are several ways to control weeds, including cultivating, mowing, mulching and chemical control. Decide which method or methods will work best for you.

CULTIVATING - Mechanical or hand cultivation can effectively control grass and weeds, if you have the necessary equipment and labor. You will need to space seedlings to allow for cultivation equipment.

To avoid root damage with mechanical cultivation, don't cultivate closer than 6-12" to the seedlings or deeper than 3". A 4' strip or circle should be considered a minimum. Mechanical cultivation should be supplemented with hand cultivation or herbicide treatment to control weeds close to your seedlings. Cultivation will be required 3-5 times per growing season.

MOWING - Mowing is a poor alternative for controlling weeds. Although it controls competition for light and space, weeds still compete with your seedlings for moisture and nutrients. There is also the potential for mechanical damage to the seedling when trying to mow too close. Hitting seedling stems while mowing, provides a place for disease to start. Mow often enough to keep seedlings clearly visible.

Mulching controls weeds and water loss.

MULCHING - Mulch can be used around seedlings to control weeds and reduce moisture loss. It can be difficult and expensive to obtain mulch and spread it on a large scale.

Many materials can be used as mulch, including dry sawdust, wood chips and bark. Straw is not as good unless you can rake it away from the seedlings in the fall. Otherwise, it provides a home for rodents.

Remove any weeds before applying mulch. An organic mulch must be thick enough (3-4" minimum) to keep weeds from growing through it. Using an organic mulch like those mentioned above, a top dressing of nitrogen fertilizer may be needed to replace nitrogen used in decomposition.

Mulching can also be done using landscape fabrics instead of or in combination with organic mulches. These do a good job of controlling weeds and reducing water loss if applied correctly. Select a fabric with good water penetration and is 4 oz. or heavier so it will last several years. These can be applied in strips over rows or in squares around individual plants. Use at least a 3' strip or square. Fabrics cost approximately 50 cents per square yard. They need to be fastened down with staples at least 6" long. Make sure the edges are sealed down so the wind doesn't blow under them and dry the soil and eventually blow them off the trees.

If fabrics are used alone, they must be black or weeds will grow underneath and force the fabric upward. Organic mulches may also be used on top of these fabrics to hold them down and help to control water loss.

Herbicides effectively control weeds when properly applied. They are available from most agricultural suppliers. You can use various equipment to apply herbicides, from boom sprayers suitable for large areas of level land to backpack sprayers for small areas or irregular terrain. Specific mixing and application instructions are on the label.

Apply herbicides only when needed and handle them with extreme care. **Follow label directions and heed all precautions.** Pesticides are especially dangerous when improperly handled, applied, or disposed. They can injure humans, domestic animals, desirable plants, wildlife and fish, and they can contaminate water supplies.

PREVENTING WEED GROWTH - Prevention is easier than killing grass and weeds after they are growing. Preventative measures are safer and last longer.

HOW DO I HANDLE HERBICIDES?

The two general types of herbicides effective in controlling grasses and broadleaf weeds are:

PRE-EMERGENT
soil-applied chemicals applied before weeds emerge to prevent weed growth, and

POST-EMERGENT
chemicals applied to the foliage of established weeds to kill them.

Since you have already eradicated any existing vegetation by following the directions under "How Do I Get Started?", you are ready to plant your seedlings. Make sure the ground is well sealed around the seedlings, then spray the pre-emergent herbicides over them.

For pre-emergent control, a Simazine®/Pendulum® or Simazine®/Surflan® combination is very effective. Simazine® and Princep® are the same product supplied by different manufacturers.

When used together, apply Simazine® at 2-4 lbs. of active ingredient per acre and Pendulum® or Surflan® at 2-4 lbs. of active ingredient per acre. The Simazine® rate varies by soil type (see label). Some species are more sensitive to herbicides than others, so always use the proper herbicides and rates for a particular species.

KILLING GROWING GRASS & WEEDS - If grass or weeds are growing after your seedlings have been planted (because pre-emergent application was delayed or adequate control was not achieved), post-emergents can be applied to regain control.

Goal® can be used for post-emergent control on weeds shorter than 4" and grasses no larger than the 2-leaf stage. It can be applied over conifers (except during bud break when some damage might result) or around hardwoods and shrubs (take care not to spray seedlings). Goal® may be substituted for Simazine® *in* the pre-emergent application. Simazine®, Surflan®, or Pendulum® provide no post-emergent control (Goal® does). Apply Goal® at 1 lb. of active ingredient per acre. A second application, probably in July, may be necessary.

NOTE Shallow cultivation (less than 2") **of Simazine®/Surflan® or Simazine®/Pendulum® WILL NOT significantly alter their effectiveness. Disturbance of any kind on areas treated with Goal® WILL destroy its effectiveness.**

For control of larger or problem broadleaf weeds such as Canada thistle, Transline® or Stinger® may be applied over the seedlings. Always check the label for the species and rates. Some of these species may display minor leaf burning, but they will grow out of it. Roundup® may also be used around seedlings to kill both grass and broad-leaves, but avoid contact with the seedlings (including drift). Protect them by covering them with a bucket, stovepipe, etc., while spraying. Use a 1-2% Roundup® solution.

REMEMBER Pre-emergent herbicides should be applied before your seedlings or the weeds start to grow! There should be no green growth in the 3-5' strips or circles when you plant your seedlings or spray pre-emergent herbicides.

To kill grass while seedlings are actively growing, some herbicides can be sprayed over both hardwood and conifer seedlings without injury. Envoy®, Vantage® (a formulation of Poast®) or Fusilade® will kill many kinds of annual grasses and some perennial grasses. Envoy® is the best choice for many perennial grasses like tall fescue and bluegrass. These are best utilized in late spring and early summer, preferably before the grass is 6" tall, but may be used on grass up to 12" tall.

Kerb® will kill existing perennial grass such as brome. Kerb® can be applied over deciduous trees, shrubs, and conifers at the rate of 2 lbs. active ingredient per acre in at least 25 gallons of water. To the Kerb® solution, add the Simazine® and/or Pendulum® or Surflan®. The Simazine® (Princep®) rate should be 2-4 lbs. of active ingredient per acre depending on soil type and the Pendulum®/Surflan® rate should be 2 lbs. of active ingredient per acre. This will give good weed control next season.

Kerb® applications must be made in the fall, usually in October or November after the soil temperature is below 50 degrees.

Oust® can also be applied over both deciduous trees and shrubs and conifers, but may be more hazardous to seedlings. Oust® has both pre-emergent and post-emergent activity, so it will kill existing perennial grass and many broadleaves and also provide pre-emergent control for the season.

HOW DO I RESCUE EXISTING PLANTINGS?

WEED CONTROL IS WORTH THE EFFORT!

Seedling growth and survival are significantly increased by controlling grass and weed competition. **GRASS & WEED CONTROL may be the single most important factor in establishing successful tree and shrub plantings.**

Remember, establishing forest or wildlife plantings will not be accomplished simply by planting your seedlings. **IF YOUR SEEDLINGS are worth planting, they are worth taking care of.**

Apply either in the fall or spring when seedlings are dormant. Oust® is an ultra low use chemical so **use extreme caution when applying**. Calibrate your sprayer so you know exactly how much you are applying or you may damage seedlings. Rates vary with soil types (see label) from .5-1.5 oz. per acre. Oust® should not be applied on soils with a PH of more than 7 or poorly drained soils.

Following is a list of herbicide manufacturers. Mention of these trade names is for the convenience of the reader and does not imply any endorsement by the Iowa Department of Natural Resources.

ALWAYS READ AND FOLLOW THE LABEL.
Applicators must be certified to apply restricted pesticides.

HERBICIDE MANUFACTURERS

BRAND	MANUFACTURER
Roundup	Monsanto
Surflan	United Phosphorus, Inc
Princep, Fusilade	Sygenta
Goal, Kerb	Dow Agriscience LLC
Stinger, Transline	Dow Agriscience LLC
Vantage	Micro Flo Company, LLC
Pendulum	BASF Corporation
Oust	Dupont
Simazine	Agriliance, LLC
Envoy	USA Corporation FNA

NEVER apply herbicides to frozen ground or standing water.

SHIPPING INFORMATION

CALL 800-865-2477 WEB www.iowadnr.gov/forestry/ FAX 515-233-1131

HOW MANY TREES DO I NEED? You can estimate 700 trees per acre depending on your design needs and other conditions. Rows 8' apart and trees 8' apart within rows, or rows 10' apart and trees 6' apart within the row, equals approximately 700 trees per acre. Shrubs can be planted in rows 8' apart and 4' apart within the row, which equals approximately 1400 plants per acre, or rows 10' apart and shrubs 5' apart which equals approximately 900 shrubs per acre.

SHIPPING Orders will be shipped to any Iowa address for **$5/100 plants, 8-16" size; $10/100 for 17-24" size**. Shipments to other states may require additional shipping charges. You can pick the week you would like to have your order shipped. In the fall shipments start the last week of October and in the spring shipments will start the last week of March. Selections be made at the time you place the order, so early orders receive first selection. Weeks in April will become full as we can only physically ship a limited quantity each week. Once your date is confirmed on your invoice, we will do everything possible to ship your order that week, although weather may occasionally make it impossible. **Orders must be paid in full before they will be shipped. Please leave a note for the shipper where to leave them so they will not be in the sun.**

PICK UP AT THE NUSERY IN AMES You may also pick the week you would like to pick up your order. Once again selections will be made at the time of the order, so early orders will receive first selection. **Orders must be paid in full before they can be picked up.** Please call before coming to pick up your trees, as weather may make it impossible to fill your order.

PAYMENT Payments for spring orders under $100 and all fall orders will be due 2 weeks from the time of the order. For spring orders over $100 and less than $1000, only a 20% down payment will be due in 2 weeks. For spring orders over $1000 only a 10% down payment will be due in 2 weeks. The balance will be due March 1. **Payments will be non-refundable for orders cancelled after March 1.**

COST SHARE ASSISTANCE Contact your District Forester (see page 16) for available programs.

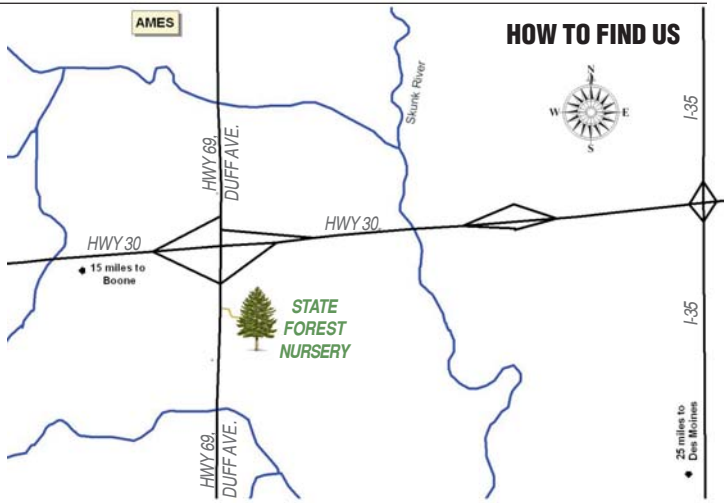
SHORTAGES Our seedling supply is based on an estimated inventory, so occassionally we may run short of a species or a particular size of a species. When this happens we try to locate the species from another nursery, because your specific order is important to us. But if we cannot locate the seedlings to fill your order, we reserve the right to offer you a refund or a substitution of another species.

CLAIMS for any cause must be made within 10 days after receipt of plants. We give no warranty, expressed or implied, as to the productiveness or life of the material, and we will not be in any way responsible for results or economic losses incurred or claimed by the consumer.

IOWA OUTDOORS is a bimonthly magazine celebrating Iowa's natural resources with full color photos and articles on conservation issues that affect Iowans.

SUBSCRIPTION RATES $12-1 year; $18-2 years; $24-3 years

TO ORDER CALL 515-281-3887



Federal and State laws prohibit employment and/or public accommodation (such as access to services or physical facilities) discrimination on the basis of age, color, creed, disability (mental and/or physical), gender identity, national origin, pregnancy, race, religion, sex, or sexual orientation. If you believe you have been discriminated against in any program, activity or facility as described above, or if you desire further information, contact the Iowa Civil Rights Commission, 800-457-4416 or write to: Director, IDNR, Wallace State Office Building, 900 E Grand Ave., Des Moines, IA 503194-0034.

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THE STATE FOREST NURSERY is supported entirely by its sales of trees and shrubs. There are no tax dollars used for its operation.

DESIGN / ILLUSTRATIONS BY nita upchurch studio, www.nitaupchurchstudio.com

SHIPPING INFORMATION

STATE FOREST NURSERY

2404 South Duff Ave Ames, Iowa 50010-8037